



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4164
 UNIQUE ID NUMBER: 1PW049
 COMBUSTOR: Floatwall
 ENGINE TYPE: TF

BYPASS RATIO: 5.2
 PRESSURE RATIO (π_{00}): 31.2
 RATED THRUST (F_{00}) (kN): 284.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	8.2	40.5	70.1	4.2
AS % OF ORIGINAL LIMIT	41.6	34.3	68.4	23.9
AS % OF CAEP/2 LIMIT (NO _x)			85.5	
AS % OF CAEP/4 LIMIT (NO _x)			100.9	
AS % OF CAEP/6 LIMIT (NO _x)			114.1	
AS % OF CAEP/8 LIMIT (NO _x)			133.3	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.626	0.03	0.69	38.57	3.3
CLIMB OUT	85	2.2	2.179	0.04	0.79	31.66	2.4
APPROACH	30	4.0	0.754	0.16	1.86	14.10	0.6
IDLE	7	26.0	0.210	4.46	26.67	4.03	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			906	1505	9377	17232	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				5.3	33.0	60.5	3.3
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)							

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.3
TEMPERATURE (K)	273.5
ABS HUMIDITY (kg/kg)	0.0018

FUEL

SPEC	Jet A
H/C	1.89
AROM (%)	21.85

MANUFACTURER: Pratt & Whitney
 TEST ORGANIZATION: Pratt & Whitney
 TEST LOCATION: East Hartford, CT
 TEST DATES: 14/02/1993-17/02/1993

NO_x REGULATION PARAGRAPH

x	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

REMARKS

1. Data from X821-3 with Floatwall Combustor

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)